

# Selected Abstracts from the April Issue of the European Journal of Vascular and Endovascular Surgery

Jean-Baptiste Ricco, MD, PhD, Editor-in-Chief, and A. Ross Naylor, MBChB, MD, FRCS, Senior Editor

## The Natural Course of Abdominal Aortic Aneurysms that Meet the Treatment Criteria but not the Operative Requirements

Noronen K., Laukontaus S., Kantonen I., Lepäntalo M., Venermo M. *Eur J Vasc Endovasc Surg* 2013;45:326-31.

**Introduction:** Abdominal aortic aneurysms (AAAs) of 55 mm diameter or growth >5 mm in 6 months are commonly accepted treatment criteria. The aim of this study was to establish the outcome of aneurysms that met the treatment criteria but not the operative requirements.

**Material and methods:** Patients ( $n = 154$ ) who were declined from operative care of AAA in Helsinki University Central Hospital (HUCH) during 2000–2010 were retrospectively analysed. Reasons for exclusion were identified. The follow-up period extended until the end of April 2012. The rupture rate and mortality were determined. The patients were analysed according to the aneurysm diameter: 55–60, 61–70 and >70 mm.

**Results:** The reasons for exclusion from operative treatment were cardiorespiratory co-morbidities in 33%, cancer in 8%, overall condition in 33% and patient's choice in 21% of the patients. Regardless of the size of the aneurysm, the cause of death was aneurysm rupture in 43%, which was confirmed either in hospital or in autopsy for 76% of the patients. Of the ruptured aneurysms, 12 were operated of which five survived.

**Conclusions:** A ruptured aneurysm is the most common cause of death among patients unfit for surgery; this should be considered in the preoperative evaluation process, especially since 5 of the 12 patients survived the ruptured AAA (RAAA) operation.

## Magnetic Resonance Imaging is More Sensitive than Computed Tomography Angiography for the Detection of Endoleaks after Endovascular Abdominal Aortic Aneurysm Repair: A Systematic Review

Habets J., Zandvoort H.J.A., Reitsma J.B., Bartels L.W., Moll F.L., Leiner T., van Herwaarden J.A. *Eur J Vasc Endovasc Surg* 2013;45:340-50.

**Objectives:** The purpose of this systematic review was to examine whether magnetic resonance imaging (MRI) or computed tomography angiography (CTA) is more sensitive for the detection of endoleaks in patients with abdominal aortic aneurysm (AAA) after EVAR.

**Design:** Systematic review.

**Materials and methods:** A systematic electronic search was performed. Articles were included when post-EVAR patients were evaluated by both MRI as index test and CTA as comparison. Methodological quality was assessed with the Quality Assessment of Diagnostic Accuracy Studies (QUADAS) tool. Primary outcome was the proportion of patients in whom MRI detected additional endoleaks, which were not seen with CTA.

**Results:** Eleven articles were included. The overall methodological quality of the articles was good. In total, 369 patients with 562 MRI and 562 CTA examinations were included. A total of 146 endoleaks were detected by CTA; MRI detected all but two of these endoleaks. With MRI 132 additional endoleaks were found.

**Conclusions:** MRI is more sensitive compared to CTA for the detection of post-EVAR endoleaks, especially for the detection of type II endoleaks. MRI should be considered in patients with continued AAA growth and negative or uncertain findings at CTA.

## A Multicentric Experience with Open Surgical Repair and Endovascular Exclusion of Popliteal Artery Aneurysms

Pulli R., Dorigo W., Castelli P., Dorrucchi V., Ferilli F., De Blasis G., Monaca V., Vecchiati E., Benincasa A., Pratesi C. *Eur J Vasc Endovasc Surg* 2013;45:357-63.

**Introduction:** The aim of this study was to analyse early and follow-up results of the treatment of popliteal artery aneurysms (PAAs) performed with open surgical repair or with endovascular exclusion with endografts in a multicentric retrospective registry involving seven Italian vascular centres.

**Materials and methods:** We retrospectively collected data concerning 178 open surgical interventions (OR group) and 134 endovascular exclusions (ER group) for PAAs performed between January 2000 and December 2011. Early and follow-up results were analysed in terms of mortality, graft patency, reintervention and limb preservation.

**Results:** OR patients were more frequently symptomatic (64%, 115 cases) than patients in the ER group (34%, 51 cases;  $p < 0.001$ ), had more frequently acute limb ischaemia (23% and 6.5%, respectively;  $p < 0.001$ ) and had more frequently a run-off score <2 (39% and 26%, respectively,  $p = 0.03$ ). In the OR group there were no perioperative deaths; six thromboses (3.3%) and one amputation occurred. In the ER group mortality was 1.5%; 13 thromboses (9.7%) and one amputation (0.5%) occurred. Mean duration of follow-up was  $30.6 \pm 27.5$  months. In the OR group primary and secondary patency, freedom from reintervention and limb preservation rates at 48 months were 63.5% (standard error (SE) 0.05), 76.5% (SE 0.05), 72.5% (SE 0.06) and 89.7% (SE 0.05), respectively. The corresponding figures in the ER group were 73.4% (SE 0.04), 85% (SE 0.04), 75% (SE 0.04) and 97% (SE 0.04), respectively.

**Conclusions:** In this large multicentric retrospective registry, open and endovascular treatment of PAAs are used in different patients with regard to clinical and anatomical characteristics. Both treatments are feasible and safe, providing satisfactory early and long-term results.

## Outcomes of Infected Abdominal Aortic Grafts Managed with Antimicrobial Therapy and Graft Retention in an Unselected Cohort

Maze M.J., Laws P., Buckenham T., Pithie A., Gallagher K., Metcalf S., Roake J., Chambers S.T. *Eur J Vasc Endovasc Surg* 2013;45:373-80.

**Objective:** To document the treatment of all patients with infected aortic grafts at Christchurch Hospital between 1999 and 2010, focusing on the mortality and morbidity of those treated without graft explantation.

**Methods:** Cases of infected aortic grafts were reviewed. Cases required a compatible clinical syndrome, CT imaging and tissue/blood culture results.

**Results:** Eighteen patients were identified. Organisms isolated at diagnosis from blood or graft site were *Staphylococcus aureus* 6 (MRSA 1), beta haemolytic streptococci 2, enteric organisms 9. There was no isolate from 2. One case had graft explantation and brief antimicrobial therapy. Seventeen patients had the graft retained. Of these, 14 received intravenous antimicrobial therapy for 6 weeks and 14 lifelong oral therapy. None died during their initial admission or within 30 days. During a mean follow-up of 57 months, 10 (59%) relapsed (median time 31 months, range 0–98), 4 (24%) underwent graft explantation and 10 (59%) died (median 40 months, range 1–198). Four of 10 who relapsed had organisms isolated (all enteric).

**Conclusion:** Patients treated with lifelong antimicrobial therapy and graft retention survived a median of 41 months, with low early mortality although over half relapsed. Empiric therapy should cover skin organisms and enteric organisms, even for those outside the post-operative period.

## The Optimal Duration of Compression Therapy Following Varicose Vein Surgery: A Meta-analysis of Randomized Controlled Trials

Huang T.-W., Chen S.-L., Bai C.-H., Wu C.-H., Tam K.-W. *Eur J Vasc Endovasc Surg* 2013;45:397-402.

**Objective:** The optimal duration of compression therapy following varicose vein surgery of the great saphenous vein (GSV) remains controversial. Therefore, the aim of this study was to evaluate different durations of compression therapy after varicose vein surgery and their outcomes.

**Design:** A systematic review and meta-analysis of randomized controlled trials (RCTs).